

## Encoder Simulator



## Open Collector Output

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The **Encoder Simulator** was developed to assist integrators in application development and troubleshooting for projects with High Speed Counters and Flow Meters.

It generates high accuracy square wave signals similar to the incremental encoders and flow meters.

Encoder simulator uses an advanced microcontroller that allows to simulate encoder frequencies up to 10KHz in both directions.

Frequency selection performed using **FREQ** pushbutton. Output frequencies are 10Hz, 100Hz, 1KHz and 10KHz. Frequency selection is available in any output mode and while output is OFF.

Output Mode selected by the **DIR** pushbutton. Selections are:

- OFF (steady LED),
- CW (LED blinking once)
- CCW (LED blinking twice)

Extra +24V and Com terminals can be used to connect Common/Return wires and pull-up resistors (if necessary)

### Encoder Simulator Signals

<b>A</b>	Encoder Output Channel A+
<b>B</b>	Encoder Output Channel B+
<b>Z</b>	Encoder Output Channel Z+
<b>Com</b>	External PS Common
<b>+24V</b>	External 24V PS Positive

All signals referenced to the **Com** terminal and Common of the power supply.

#### LED Indicator

<b>LED Solid ON</b>	Indicates selected frequency. Output is OFF
<b>LED Blinking Once</b>	Output is On in CW direction
<b>LED Blinking Twice</b>	Output is On in CCW direction

#### Pushbuttons

<b>FREQ</b>	Changes output frequency between 10Hz, 100Hz, 1KHz and 10KHz
<b>DIR</b>	Selects Output mode between CW, CCW, OFF

### SPECIFICATION

<b>Power Supply</b>	24V DC +/- 15%
<b>Current Consumption</b>	40mA max (load dependent)

<b>Output</b>	
<b>Frequency A, B</b>	10Hz, 100 Hz, 1KHz 10KHz
<b>Period Z</b>	2500 pulses A/B
<b>Accuracy at 25°C</b>	+/-2%
<b>Encoder Output Isolation</b>	None
<b>Output Protection</b>	None

<b>Encoder Signal Output Open Collector model</b>	
<b>Encoder Signals</b>	A B Z
<b>Output Type</b>	NPN Open Collector
<b>Voltage</b>	5V-30V
<b>Max Output Current</b>	100mA per channel

<b>Operating Temperature</b>	10-45°C
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**Note:** All signals referenced to the GND terminal and Common of the external power supply.

Currently the device does not carry any agency approvals and is not compliant with RoHS.

### DISCLAIMER

This device is intended to provide general assistance with application development and debugging and can't be permanently used in live production systems. Accordingly, production system must be tested and commissioned with real encoders and signals to ensure safe and reliable operation.

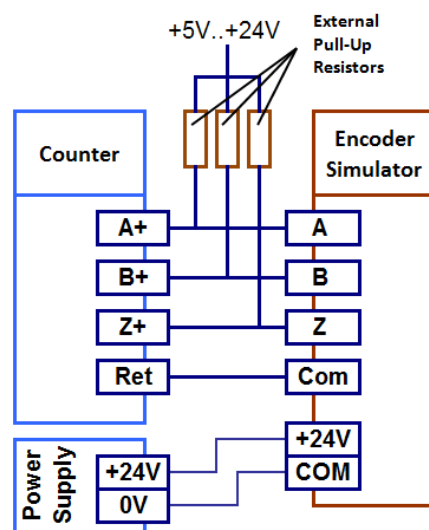
**IN NO EVENT SHALL THE DEVICE MANUFACTURER BE LIABLE FOR ANY DAMAGES OF ANY KIND INCLUDING DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, LOSS OF PROFIT OR DAMAGE.**

The examples and diagrams in this manual are included for illustrative purposes only. Because of the many variables and requirements associated with any particular installation, the device manufacturer cannot assume responsibility or liability for actual use based on the examples and diagrams. Before making any decision or taking any action that might affect your equipment, you should consult a qualified professional advisor.



Do Not Operate Device Unless Area is Non-Hazardous

### NPN Open Collector Output



External pullup resistors may require  
Typical resistor 2.2K..3.3K